



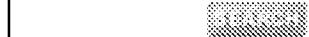
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July 2000

SIGGRAPH '00: Proceedings of the 27th annual conference on Computer grap

interactive techniques

Publisher: ACM Press/Addison-Wesley Publishing Co.Full text available: [Pdf](#) (596.95 KB) Additional Information: [full citation](#), [abstract](#), [references](#), [cited by](#),**Bibliometrics:** Downloads (6 Weeks): 10, Downloads (12 Months): 81, Citation Count: 9

We present new techniques for interactive cinematic lighting design of complex scenes procedural shaders. Deep-framebuffers are used to store the geometric and optical info the visible surfaces of an image. The geometric information ...

Keywords: animation, illumination, image-based rendering, optics, rendering, renderin texture mapping

2 [A voxel-based, forward projection algorithm for rendering surface and volumetric d](#)[John R. Wright, Julia C. L. Hsieh](#)October 1992 **VIS '92:** Proceedings of the 3rd conference on Visualization '92**Publisher:** IEEE Computer Society PressFull text available: [Pdf](#) (738.41 KB) Additional Information: [full citation](#), [abstract](#), [references](#), [cited by](#)**Bibliometrics:** Downloads (6 Weeks): 4, Downloads (12 Months): 27, Citation Count: 7

In this paper we present a voxel-based, forward projection algorithm with a pipeline arc real-time applications. The multi-sensor capabilities (electro-optical, or visual, and infra implemented in software have also been applied ...

3 [An open-source CVE for programming education: a case study](#)
[Andrew M. Phelps, Christopher A. Egert, Kevin J. Bierre, David M. Parks](#)
July 2005 **SIGGRAPH '05:** SIGGRAPH 2005 Courses**Publisher:** ACM [Request Permissions](#)Full text available: [Pdf](#) (7.92 MB) Additional Information: [full citation](#), [references](#)**Bibliometrics:** Downloads (6 Weeks): 39, Downloads (12 Months): 362, Citation Count: 0**4** [Fast GPU ray tracing of dynamic meshes using geometry images](#)[Nathan A. Carr, Jared Hoberock, Keenan Crane, John C. Hart](#)June 2006 **GI '06:** Proceedings of Graphics Interface 2006**Publisher:** Canadian Information Processing SocietyFull text available: [Pdf](#) (599.97 KB) Additional Information: [full citation](#), [abstract](#), [references](#), [cited by](#)**Bibliometrics:** Downloads (6 Weeks): 26, Downloads (12 Months): 199, Citation Count: 12

Using the GPU to accelerate ray tracing may seem like a natural choice due to the high nature of the problem. However, determining the most versatile GPU data structure for

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storage and traversal is a challenge. In this paper, we introduce ...


Keywords: GPU algorithms, geometry images, mesh parameterization, ray tracing

5 Evolution of 3D mobile games development

Fadi Chehimi, Paul Coulton, Reuben Edwards

January 2008 **Personal and Ubiquitous Computing**, Volume 12 Issue 1


Publisher: Springer-Verlag

Full text available:  Pdf (300.72 KB) Additional Information: [full citation](#), [abstract](#), [index terms](#)

Bibliometrics: Downloads (6 Weeks): 30, Downloads (12 Months): 177, Citation Count: 2


3D computer graphics have been an important feature in games development since it was introduced in the early 80s and there is no doubt that 3D based content is often viewed as more attractive in games than the more abstract 2D graphics. Many games ...

6 Exploring volume rendering with path tracing

 Scott Davis, Xiaoqian Jiang, Greg Nichols, James Cremer


July 2005 **SIGGRAPH '05: SIGGRAPH 2005 Posters**

Publisher: ACM  [Request Permissions](#)

Full text available:  Pdf (79.78 KB) Additional Information: [full citation](#)

Bibliometrics: Downloads (6 Weeks): 1, Downloads (12 Months): 17, Citation Count: 0

7 Programming graphics processors functionally

 Conal Elliott

September 2004 **Haskell '04: Proceedings of the 2004 ACM SIGPLAN workshop on Haskell**

Publisher: ACM  [Request Permissions](#)

Full text available:  Pdf (673.50 KB) Additional Information: [full citation](#), [abstract](#), [references](#), [cited by](#),

Bibliometrics: Downloads (6 Weeks): 19, Downloads (12 Months): 73, Citation Count: 3

Graphics cards for personal computers have recently undergone a radical transformation from single-function graphics pipelines to multi-processor, programmable architectures. Multi-processor architectures are clearly advantageous for graphics for the ...

Keywords: 3D modeling, code generation, compilers, computer algebra, computer graphics, domain-specific languages, functional geometry, functional programming, graphics languages, graphics processors, partial evaluation, procedural geometry, procedural shading, shading


8 Modern approaches to augmented reality

 **Video files associated with this course are available from the citation page**

Oliver Bimber, Ramesh Raskar

August 2007 **SIGGRAPH '07: SIGGRAPH 2007 courses**


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Bibliometrics: Downloads (6 Weeks): 220, Downloads (12 Months): 1348, Citation Count: 0

This tutorial discusses the Spatial Augmented Reality (SAR) concept, its advantages and limitations. It will present examples of state-of-the-art display configurations, appropriate real-time techniques, details about hardware and software ...

9 Modern approaches to augmented reality


 Oliver Bimber, Ramesh Raskar

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This tutorial discusses the Spatial Augmented Reality (SAR) concept, its advantages and It will present examples of state-of-the-art display configurations, appropriate real-time techniques, details about hardware and software ...

10 [Modern approaches to augmented reality](#) [Oliver Bimber](#), [Ramesh Raskar](#)July 2006 **SIGGRAPH '06: SIGGRAPH 2006 Courses****Publisher:** ACM  [Request Permissions](#)Full text available:  Pdf (2.45 MB)Additional Information: [full citation](#), [abstract](#), [references](#), [index ter](#)**Bibliometrics:** Downloads (6 Weeks): 47, Downloads (12 Months): 313, Citation Count: 1


This tutorial discusses the Spatial Augmented Reality (SAR) concept, its advantages and It will present examples of state-of-the-art display configurations, appropriate real-time techniques, details about hardware and software ...


11 [Escape analysis for Java™: Theory and practice](#) [Bruno Blanchet](#)November 2003 **Transactions on Programming Languages and Systems (TOPLAS)** ,**Publisher:** ACM  [Request Permissions](#)Full text available:  Pdf (684.21 KB)Additional Information: [full citation](#), [abstract](#), [references](#), [cited by](#), [review](#)**Bibliometrics:** Downloads (6 Weeks): 17, Downloads (12 Months): 93, Citation Count: 15

Escape analysis is a static analysis that determines whether the lifetime of data may ex scope. This paper first presents the design and correctness proof of an escape analysis f This analysis is interprocedural, context ...

Keywords: Java, optimization, stack allocation, static analysis, synchronization elimina**12** [Exploiting perception in high-fidelity virtual environments](#) **Additional presentations from the 24th course are available on the citation p:**[Mashhuda Glencross](#), [Alan G. Chalmers](#), [Ming C. Lin](#), [Miguel A. Otaduy](#), [Diego Gutierrez](#)July 2006 **SIGGRAPH '06: SIGGRAPH 2006 Courses****Publisher:** ACM  [Request Permissions](#)Full text available:  Mov (68:6 MIN),  Pdf (5.07 MB) Additional Information: [full citation](#), [appendices and](#) [abstract](#), [references](#), [cited by](#)**Bibliometrics:** Downloads (6 Weeks): 297, Downloads (12 Months): 1663, Citation Count: 1

The objective of this course is to provide an introduction to the issues that must be con building high-fidelity 3D engaging shared virtual environments. The principles of human guide important development of algorithms and techniques ...


Keywords: collaborative environments, haptics, high-fidelity rendering, human-compu interaction, multi-user, networked applications, perception, virtual reality**13** [Realistic materials in computer graphics](#) [Hendrik P. A. Lensch](#), [Michael Goesele](#), [Yung-Yu Chuang](#), [Tim Hawkins](#), [Steve Marschner](#), [Matusik](#), [Gero Mueller](#)July 2005 **SIGGRAPH '05: SIGGRAPH 2005 Courses****Publisher:** ACM  [Request Permissions](#)

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In this paper, we introduce a system to virtually restore damaged or historically significant objects without needing to physically change the object in any way. Our work addresses both color and geometry. We present a restored synthetic version of the object as viewed from ...

Keywords: digitization, energy minimization, image completion, light transport, radiometric calibration, restoration



Also published in:

December 2008 **Transactions on Graphics (TOG)** Volume 27 Issue 5**15** [Level set and PDE methods for computer graphics](#) [David Breen](#), [Ron Fedkiw](#), [Ken Museth](#), [Stanley Osher](#), [Guillermo Sapiro](#), [Ross Whitaker](#)August 2004 **SIGGRAPH '04**: SIGGRAPH 2004 Course Notes**Publisher:** ACM  [Request Permissions](#)Full text available:  Pdf (17.07 MB)Additional Information: [full citation](#), [abstract](#), [cited by](#)**Bibliometrics:** Downloads (6 Weeks): 334, Downloads (12 Months): 1281, Citation Count: 4

Level set methods, an important class of partial differential equation (PDE) methods, describe surfaces implicitly as the level set (iso-surface) of a sampled, evolving nD function. The paper begins with preparatory material that introduces the ...

16 [Real-time shading](#) [Marc Olano](#), [Kurt Akeley](#), [John C. Hart](#), [Wolfgang Heidrich](#), [Michael McCool](#), [Jason L. Mitchell](#), [Rost](#)August 2004 **SIGGRAPH '04**: SIGGRAPH 2004 Course Notes**Publisher:** ACM  [Request Permissions](#)Full text available:  Pdf (7.39 MB)Additional Information: [full citation](#), [abstract](#), [cited by](#)**Bibliometrics:** Downloads (6 Weeks): 99, Downloads (12 Months): 712, Citation Count: 1


Real-time procedural shading was once seen as a distant dream. When the first version of the course was offered four years ago, real-time shading was possible, but only with one of two methods: by using specialized hardware or by combining the effects of tens to hundreds of rendering ...

17 [GPGPU: general purpose computation on graphics hardware](#) [David Luebke](#), [Mark Harris](#), [Jens Krüger](#), [Tim Purcell](#), [Naga Govindaraju](#), [Ian Buck](#), [Cliff W. Lefohn](#)August 2004 **SIGGRAPH '04**: SIGGRAPH 2004 Course Notes**Publisher:** ACM  [Request Permissions](#)Full text available:  Pdf (63.03 MB)Additional Information: [full citation](#), [abstract](#), [cited by](#)**Bibliometrics:** Downloads (6 Weeks): 307, Downloads (12 Months): 1680, Citation Count: 9

The graphics processor (GPU) on today's commodity video cards has evolved into an extremely powerful and flexible processor. The latest graphics architectures provide tremendous new capabilities for general purpose computation.


bandwidth and computational horsepower, with fully programmable vertex ...

18 Theory and application of specular path perturbation

 [Min Chen](#), [James Arvo](#)

October 2000 **Transactions on Graphics (TOG)** , Volume 19 Issue 4

Publisher: ACM  [Request Permissions](#)


Full text available:  [Pdf](#) (280.67 KB) Additional Information: [full citation](#), [abstract](#), [references](#), [cited by](#),

Bibliometrics: Downloads (6 Weeks): 6, Downloads (12 Months): 49, Citation Count: 4

In this paper we apply perturbation methods to the problem of computing specular reflection on curved surfaces. The key idea is to generate families of closely related optical paths by projecting a given path into a high-dimensional Taylor series. Our ...


Keywords: Taylor series, implicit surfaces, optics, perturbation theory, specular reflection

19 Mark-sweep or copying?: a "best of both worlds" algorithm and a hardware-supported time implementation

 [Sylvain Stanchina](#), [Matthias Meyer](#)

October 2007 **ISMM '07**: Proceedings of the 6th international symposium on Memory management

Publisher: ACM  [Request Permissions](#)


Full text available:  [Pdf](#) (294.73 KB) Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

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Copying collectors offer a number of advantages over their mark-sweep counterparts. First, they do not have to deal with mark stacks and potential mark stack overflows. Second, they do not suffer from unpredictable fragmentation overheads since they ...

Keywords: hardware support, mark-compact collection, object-based processor architecture, concurrent time garbage collection

20 The elements of nature: interactive and realistic techniques

 [Oliver Deussen](#), [David S. Eberl](#), [Ron Fedkiw](#), [F. Kenton Musgrave](#), [Przemyslaw Prusinkiewicz](#), [Robb Roble](#), [Jos Stam](#), [Jerry Tessendorf](#)

August 2004 **SIGGRAPH '04**: SIGGRAPH 2004 Course Notes

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This updated course on simulating natural phenomena will cover the latest research and techniques for simulating most of the elements of nature. The presenters will provide material for production, interactive simulation, and research perspectives ...

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